

COMPOSITE DROPSEED

Sporobolus compositus (Poir.)

Merr. var. *compositus*

Plant Symbol = SPCOC2

Contributed by: USDA NRCS Elsberry Plant Materials Center and the National Plant Data Center



Ann Gardner
Ada Herbarium, Iowa State University

Alternate Names

Sporobolus asper, *Sporobolus asper* var. *hookeri*, rough dropseed, tall dropseed, zacaton

Uses

Forage: Composite dropseed is a minor portion of the vegetative composition in most of the areas in which it grows. It is not a particularly valuable forage species. The forage value of composite dropseed, compared to other grasses, is fair for livestock and poor for wildlife. It is most palatable in

the spring when plants are in the vegetative developmental stage and palatability declines as culms mature. In Kansas composite dropseed tends to increase in overgrazed bluestem pastures, but it tends to decrease in short-grass prairies.

Prairie restoration and Roadside plantings: On upland hardwood forest-tallgrass prairies in central Oklahoma, the diet of cottontail rabbit is dominated by composite dropseed, Heller's rosette grass (*Dichanthelium oligosanthos*), and *Croton* species. Disturbed habitats were maintained by removal of woody overstory vegetation with herbicide and burning. Differences in the botanical composition and quality of rabbit diets between disturbed and undisturbed habitats were of little biological significance.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: Grass Family (Poaceae). Composite dropseed is a tall (2 to 4 ft.), native, perennial, warm-season bunchgrass. Culms are erect, solitary or in small tufts, simple or branching, 24 to 48 inches tall, solid and glabrous. Some varieties have short rhizomes. Inflorescences are narrow panicles, 2 to 12 inches long and partially to completely included in the upper sheaths. The inflorescences are either white or pale purple in coloration. Composite dropseed flowers during late summer to early autumn. The stems and leaves bleach whitish during winter.

Distribution: For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: Composite dropseed occurs on prairies and foothills on dry clayey to silty soils. It is most abundant on soils that are intermittently wet and dry. It does not grow on either deep sandy soils or on soils with a high water table. In the Great Basin composite dropseed grows on dry often sandy sites in Juniper communities and in fallow fields below 2,100 ft.

Adaptation

Composite dropseed is more drought tolerant than many grasses of the bluestem prairie, but it is not as

United States Department of Agriculture-Natural Resources Conservation Service

Plant Materials <<http://plant-materials.nrcs.usda.gov/>>

Plant Fact Sheet/Guide Coordination Page <<http://plant-materials.nrcs.usda.gov/intranet/pfs.html>>

National Plant Data Center <<http://npdc.usda.gov>>

drought hardy as sand dropseed (*Sporobolus cryptandrus*).

Establishment

Pretreatment of composite dropseed seeds with potassium nitrate resulted in 39% germination.

Management

Burning in early spring favors warm-season composite dropseed, whereas late spring burning favors cool-season species. Forage yield of composite dropseed increased following a spring burn during both wet and dry years in an Ashe's juniper (*Juniperus ashe*) community in southeastern Texas. An autumn burn favored the growth of composite dropseed in a southern Texas chaparral community.

A field study addressed the effects of fire, cattle grazing and the interaction of these two disturbances on plant species abundance and community structure in an tallgrass prairie in Oklahoma. Plant species composition was sampled across 4 levels of increasing disturbance intensity: ungrazed + unburned (undisturbed), grazed + unburned, ungrazed + burned, and grazed + burned. Burning occurred during mid-April. Grazing occurred from mid-May to September at a moderate to heavy stocking rate. Burning decreased the percentage cover of composite dropseed from 11.7 to 4.8, when averaged across grazing treatments and years. Grazing had no effect on the percentage cover of composite dropseed. The common species in the plant community were classified as either matrix or non-matrix species. Matrix forming species are superior competitors that consume the majority of resources, and non-matrix species occupy areas between the matrix forming dominants. In this study the matrix species were perennial grasses: big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), Indiangrass (*Sorghastrum nutans*), and composite dropseed. The non-matrix species were perennial and annual forbs, and the annual grass cheatgrass (*Bromus tectorum*). Collectively, the matrix and non-matrix species exhibited an opposite response to both burning and grazing treatments. Collectively, fire increased the cover of matrix-forming grass; composite dropseed was an exception. Grazing decreased the cover of matrix grasses and increased the cover of forbs. Cheatgrass was the most common non-matrix species. Burning reduced the percentage cover of cheatgrass from 30.0 to 1.8, when averaged across grazing treatments and years.

Pests and Potential Problems

This plant may become weedy or invasive in some regions or habitats and may displace desirable

vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, or state natural resource or agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at plants.usda.gov.

Control

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA NRCS does not guarantee or warranty the products and control methods named, and other products may be equally effective.

Seeds and Plant Production

An average seed lot of composite dropseed contains 759,362 seeds per pound. Observations indicate that cross-pollination in composite dropseed is possible but probably infrequent. Nevertheless, standard isolation procedures should be used in composite dropseed seed production.

Cultivars, Improved, and Selected Materials (and area of origin)

Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under "United States Government". The Natural Resources Conservation Service will be listed under the subheading "Department of Agriculture."

"Northern Missouri Germplasm" is a source identified ecotype for northern Missouri counties. It was collected from native prairie remnants in Missouri counties north of the Missouri River and from east to west across northern Missouri. The potential uses of Northern Missouri Germplasm include roadside plantings, prairie restoration, landscaping, and increasing species diversity in prairie communities. Seed is available from the USDA NRCS Elsberry Plant Materials Center, 2803 N. Hwy. 79, Elsberry, Missouri.

References

Boe, A. 1990. *Variability for seed size and yield in two tall dropseed populations*. *J. Range Manage.* 43:195-197.

Anderson, K.L., Smith, E.F. & Owensby, C.B. 1970. Burning bluestem range. *J. Range Manage.* 23: 81-92.

Baskin, C.J. & Baskin, J.M. 1998. *Seeds: Ecology, biogeography and evolution in dormancy and germination*. Academic Press. In: Native Plant Propagation Database
<http://nativeplants.for.uidaho.edu/network/PreviousResults.asp>

Box, T.W. Powell, J.D. & Lynn, D. 1967. *Influence of fire on south Texas chaparral communities*. *Ecology* 48: 955-961.

Collins, S. 1987. *Interaction of disturbances in tallgrass prairie: a field experiment*. *Ecology* 68: 1243-1250.

Kansas Wildflowers and Grasses. Accessed 20 October 2005 <http://www.lib.ksu.edu/wildflower/>

Riggins, R. 1977. *A biosystematic study of the Sporobolus asper complex (Gramineae)*. Iowa State Journal of Research 51: 287-321.

Peitz, D.G., Lockmiller R.L., Leslie, D.M. & Engle, D.M. 1997. *Protein quality of cottontail rabbit forages following rangeland disturbance*. *J. Range Manage.* 50: 450-458.

Stubbendieck, J., Hatch, S.L. & Butterfield, C. 1995. *North American range plants*. ed. 2. University of Nebraska Press, Lincoln.

USDA Forest Service. *Fire effects information system*. Accessed 20 October 2005
<http://www.fs.fed.us/database/feis/>

USDA NRCS. 2006. *The PLANTS database*. <<http://plants.usda.gov>>. Accessed: 23March2006. National Plant Data Center, Baton Rouge, Louisiana

Wink, R.L. & Wright, H.A. 1973. *Effects of fire on an ashe juniper community*. *J. Range Manage.* 26: 326-329.

Prepared By

USDA NRCS Elsberry Plant Materials Center and
James Henson, National Plant Data Center

Species Coordinator

USDA NRCS Elsberry Plant Materials Center,
Elsberry, Missouri

Edited: 23March2006 jsp

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Read about [Civil Rights at the Natural Resources Conservation Service](#).

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site<<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>